

Attorney Docket: ARC 3043 R1
Amendment A

I. AMENDMENTS

Amendments to the Specification:

Please add the following new paragraphs after paragraph [0027]:

[0027.1] In a preferred embodiment of the invention, the microprotrusion member 44 is impacted against the subject's skin with a power of impact (P) of at least 0.05 joules per cm² of the microprojection member array area over a penetration period of 10 msec or less; the penetration period being defined as the period of time from initial contact of the skin with the microprotrusion member 44 (without substantial deflection of the skin) through cessation of penetration of the member 44 into the skin. More preferably, the power of impact is at least 0.1 joules per cm² over a penetration period no greater than 1 msec.

[0027.2] As will be appreciated by one having ordinary skill in the art, since the microprotrusion member 44 would have a velocity equal to zero at the noted point of cessation of penetration (i.e., maximum penetration depth), the velocity of the member 44 when it contacts the skin must be greater than the average velocity during penetration. The noted relationship is graphically illustrated in Fig. 8, wherein the velocity is equal to the slope of the curve. Thus, for example, if the microprojection member 44 travels to a penetration depth greater than 100 μ m in less than 10 msec, the member 44 must contact the skin at a velocity greater than 0.01 mm/sec.

Please replace paragraph [00011] with the following amended paragraph:

[00011] The invention will now be described in greater detail with reference to the preferred embodiments illustrated in the accompanying drawings, in which like elements bear like reference numerals, and wherein:

FIG. 1 is a side cross sectional view of an applicator device in an initial configuration prior to cocking;

FIG. 2 is a side cross sectional view of the applicator device of FIG. 1 in a cocked position with a patch retainer attached to the applicator;

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FIG. 3 is a side cross sectional view of the applicator device of FIG. 1 with the patch retainer of FIG. 2 after the piston has been released to apply the patch;

FIG. 4 is a perspective view of an alternative embodiment of an applicator device;

FIG. 5 is a perspective view of a portion of one example of a microprotrusion array;

FIG. 6 is a side sectional view of a pressure driven applicator device; and

FIG. 7 is a graph of dose M (in μg) of ovalbumin delivered over two time periods (5 seconds and 1 hour) from dry coated microprotrusions arrays applied using manual finger pressure (non-hatched bars) and using automatic applicators in accordance with the present invention (hatched bars); and

FIG. 8 is a graph of depth of penetration of a microprotrusion member as a function of duration, according to the invention.